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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,053	04/05/2001	Andrew McKaig	BKA-22402/01	3450

7590 11/04/2002

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EXAMINER

MICHALSKY, GERALD A

ART UNIT	PAPER NUMBER
3753	7

DATE MAILED: 11/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Offic Action Summary</b>	Application No.	Applicant(s)
	09/827,053	MCKAIG, ANDREW
	Examiner	Art Unit
	Gerald A. Michalsky	3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 24 October 2002.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 3-8 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 3-8 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_

4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 October 2002 has been entered.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 3-5 and 7-8 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 3-5 and 7-8 contain "new matter". The recitation of "said piston being balanced" in claim 4, line 6 and "a balanced piston" in claim 5, line 6 is regarded as "new matter". Page 7, line 1 of the specification recites "balanced by upstream pressure". This recitation in the specification does not provide support for the recitations in claims 4 and 5 indicated above. Page 7, line 1 merely indicates that in the closed position of the valve downstream pressure tending to open the valve is slightly over-balanced by upstream pressure tending to close the valve such that the valve remains in the closed position until upstream pressure is vented. This recitation on page 7, line 1 does not provide

support for the specific words indicated in claims 4 and 5 above. Claims 7 and 8 are completely regarded as "new matter". Nowhere in the original specification is there support for "third" pressures, "intermediate" positions, "balanced" pistons or pressures at such "intermediate" positions, etc. The original specification does not even mention an "intermediate" position.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

**The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

5. Claims 3-5 and 7-8 are further rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitations mentioned above in claim 4, 5, 7, and 8 are inaccurate for the reasons described above. As pointed out above, the piston herein is not a truly "balanced" piston, such that the recitations above are inaccurate.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

**A person shall be entitled to a patent unless –**

**(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

7. Claims 3-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Reilly.

The recitations of "balanced" in claims 4 and 5 do not define over Reilly. While the valve of Reilly may be slightly more over-balanced to the closed position than the valve of the applicant, because of the geometry of the pressure surfaces involved, the differences may be less than first apparent. For example, the annular area adjacent the

end of the lead line for numeral 54 of Reilly is the area over which downstream pressure exerts force to open the valve. This annular area at 54 of Reilly is equal to the area of the valve piston minus the area of the valve seat. The "dome" pressure area is equal to the area of the valve piston. Therefore, the difference between the "dome" pressure area and the annular area at 54 of Reilly is equal to the area of the valve seat.

However, the area of the valve seat, while appearing large in the drawing relative to the annular area at 54 of Reilly, is not really as large as it first appears. Because the annular area at 54 of Reilly completely surrounds the valve seat, the annular cross-sectional area increases proportionally with the square of the radius. Since area varies according to the square of the radius, the annular area at 54 is not as small as it first appears relative to the area of the valve seat and the dome pressure area. Similarly, in Figure 1 herein, the difference between the area of the piston and area of the inner diameter of the valve seat is not as small as is first apparent. The "conventional control valve" described in column 5, lines 10-11 of Reilly is read as a "gas controller".

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3-5 and 7-8 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Reilly in view of either Taylor or Sealfon et al. Assuming the valve of Reilly cannot be read as a truly "balanced" piston, just as applicant's valve is not truly

"balanced", it would have been obvious to substitute a truly "balanced" piston for the piston of Reilly in view of either Taylor or Sealfon et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gerald A. Michalsky whose telephone number is (703) 308-1049. The examiner can normally be reached on M-F 5:30 AM - 2 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Buiz can be reached on (703) 308-0871. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7765 for regular communications and (703) 308-7765 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



Gerald A. Michalsky  
Primary Examiner  
Art Unit 3753

GM  
November 4, 2002